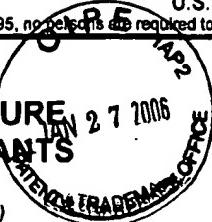


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				<b>Complete If Known</b> <table border="1" style="width: 100%;"> <tr> <td>Application Number</td> <td>09/898,850</td> </tr> <tr> <td>Filing Date</td> <td>July 3, 2001</td> </tr> <tr> <td>First Named Inventor</td> <td>Ungerboeck</td> </tr> <tr> <td>Group Art Unit</td> <td>2634</td> </tr> <tr> <td>Examiner Name</td> <td>D.V. Ha</td> </tr> <tr> <td>Attorney Docket Number</td> <td>13226US02</td> </tr> </table>		Application Number	09/898,850	Filing Date	July 3, 2001	First Named Inventor	Ungerboeck	Group Art Unit	2634	Examiner Name	D.V. Ha	Attorney Docket Number	13226US02
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<b>U.S. PATENT DOCUMENTS</b>					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
DH		5,140,417	08.1992	Tanaka	
DH		5,253,078	10.1993	Balkanski et al.	

<b>FOREIGN PATENT DOCUMENTS</b>					
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

<b>OTHER ART – NON PATENT LITERATURE DOCUMENTS</b>					
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DH		T.M. Cover, et al., <i>Elements of Information Theory</i> , Wiley Series in Telecommunications, A Wiley-Interscience Publication, 1991, pgs. 1-542			
DH		J.M. Wozencraft et al., <i>Principles of Communication Engineering</i> , Chapter 6-"Implementation of Coded Systems," John Wiley & Sons, Inc., 1965, pgs. 363-484			
DH		D.A. Huffman, "A Method for the construction of minimum-redundancy codes," Proc. IRE, vol. 40, 1952, pgs. 1098-1101			
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DH		G. D. Forney, Jr., "Trellis shaping," IEEE Trans. Inform. Theory, vol. 38, March 1992, pgs. 281-300			
DH		P. Fortier, et al., "Multidimensional signal sets through the shell construction for parallel channels," IEEE Trans. Commun., vol. 40, March 1992, pgs. 500-512			
DH		A. K. Khandani et al., "Shaping multidimensional signal spaces— Part I: Optimum shaping, shell mapping," IEEE Trans. Inform. Theory, vol. 39, November 1993, pgs. 1799-1808			
DH		G. R. Lang et al., "A Leech lattice modem," IEEE J. Select. Areas Commun., vol. 7, August 1989, pgs. 968-973			
DH		G. Ungerboeck et al., Broadcom Corporation, "Coding for V.90 Issue 2," TR-30.1/99-11-064R1, Telecommunications Industry Association, Clearwater Beach, FL, November 29, 1999			

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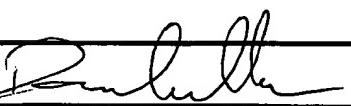
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Sheet	2	First Named Inventor	Ungerboeck		
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DH		G. Ungerboeck, "Channel Coding with Multilevel/Phase Signals," IEEE Transactions on Information Theory, vol. IT-28, no. 1, January 1982, pgs. 55-67
DH		G. Ungerboeck, "Trellis-coded Modulation with Redundant Signal Sets, Part 1: Introduction," IEEE Communications Magazine, Vol. 25, No. 2, February 1987, pgs. 5-11
DH		H. Harashima et al., "Marched-transmission technique for channels with intersymbol interference," IEEE Trans. Commun., vol. COM-20, August 1972, pgs. 774-780
DH		R. Laroia, N. Farvardin and S. Tretter, "On optimal shaping of multi-dimensional constellations," IEEE Trans. Inform. Theory, vol. 40, July 1994, pgs. 1044-1056
DH		G.D. Forney, et al., "Modulation and coding for linear Gaussian channels," IEEE Trans. Inform. Theory, vol. 44, No. 6, October 1998, pgs. 2384-2415
DH		G.D. Forney, et al., "Multidimensional constellations - Part 1: Introduction, figures of merit, and generalized cross constellations," IEEE J. Select. Areas Commun., vol. 7, No. 6, August 1989, pgs. 877-892
DH		ITU-T Recommendation V.90 (09/98)
DH		ITU-T Recommendation V.32 (02/98)

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